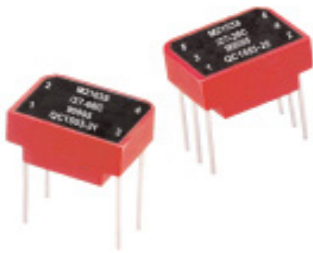


MIL-STD-1553 Transformers

Single Ratio THT QPL Pulse Transformers
Ruggedized



- Ⓡ Qualified for use in QPL MIL-STD-1553 applications
- Ⓡ Single ratio packages (see Schematics)
- Ⓡ Moisture Sensitivity Level: 1
- Ⓡ Designed, built, and tested to MIL-PRF-21038 Levels* C, M, and T
- Ⓡ Package C is 4-lead; package D is 6-lead (center tap)
- Ⓡ Built in ISO 9001 facility
- Ⓡ Applicable specifications
 - Ⓝ MIL-STD-1553B
 - Ⓝ MIL-STD-202
 - Ⓝ MIL-PRF-21038
 - Ⓝ ISO 9001

* Ⓝ Level C - for high reliability commercial/industrial applications
 Ⓝ Level M - for general purpose military applications
 Ⓝ Level T - for high reliability critical military applications

Summary Performance Specifications

Impedance	(see table below)
Droop	≤ 20%
Overshoot	±1V MAX
Common Mode Rejection (CMR)	≥ 45dB
Frequency Range (no load)	75kHz to 1MHz
Operating Temperature Range	-55°C to 130°C
Weight	≤ 5 grams
Insulation Resistance (MIN)	10K MΩ @ 250Vdc
Dielectric Withstanding Voltage	100Vrms

Characteristics

Line	Level	Military Designation No.	Pulse Part No.	Package	Height (in. MAX)	Terminals	Ratio (±3%)	RDC (Ω MAX)	Impedance (Ω MIN)
1	C	M21038/27-05C	QC1553-20	C	.250	1-2:4-3	1:1.41	1-2 2.2 4-3 2.7	(4-3) 3,000
2	M	M21038/27-05	Q1553-20						
3	T	M21038/27-05T	QT1553-20						
4	C	M21038/27-06C	QC1553-21	D	.250	1-5:6.2	1CT:1CT	1-5 2.5 6-2 2.8	(6-2) 3,000
5	M	M21038/27-06	Q1553-21						
6	T	M21038/27-06T	QT1553-21						
7	C	M21038/27-07C	QC1553-22	D	.250	1-5:6.2	1CT:1.41CT	1-5 2.2 6-2 2.7	(6-2) 3,000
8	M	M21038/27-07	Q1553-22						
9	T	M21038/27-07T	QT1553-22						
10	C	M21038/27-08C	QC1553-23	D	.250	1-5:6.2	1CT:1.66CT	1-5 1.5 6-2 2.4	(6-2) 3,000
11	M	M21038/27-08	Q1553-23						
12	T	M21038/27-08T	QT1553-23						
13	C	M21038/27-09C	QC1553-24	D	.250	1-5:6.2	1CT:2CT	1-5 1.3 6-2 2.6	(6-2) 3,000
14	M	M21038/27-09	Q1553-24						
15	T	M21038/27-09T	QT1553-24						
16	C	M21038/27-28C	QC1553-25*	D	.250	1-5:6.2	1CT:1.5CT	1-3 0.90 6-2 2.5	(6-2) 3,000
17	M	M21038/27-28	Q1553-25*						
18	T	M21038/27-28T	QT1553-25*						
19	C	M21038/27-29C	QC1553-51*	D	.250	1-5:6.2	1CT:1.79CT	1-5 0.90 6-2 2.5	(6-2) 3,000
20	M	M21038/27-29	Q1553-51*						
21	T	M21038/27-29T	QT1553-51*						
22	C	M21038/27-30C	QC1553-52*	D	.250	1-5:6.2	1CT:2.5CT	1-5 1.0 6-2 2.8	(6-2) 3,000
23	M	M21038/27-30	Q1553-52*						
24	T	M21038/27-30T	QT1553-52*						

*NOTE: Designed for transceivers utilizing a single supply voltage (+5V).

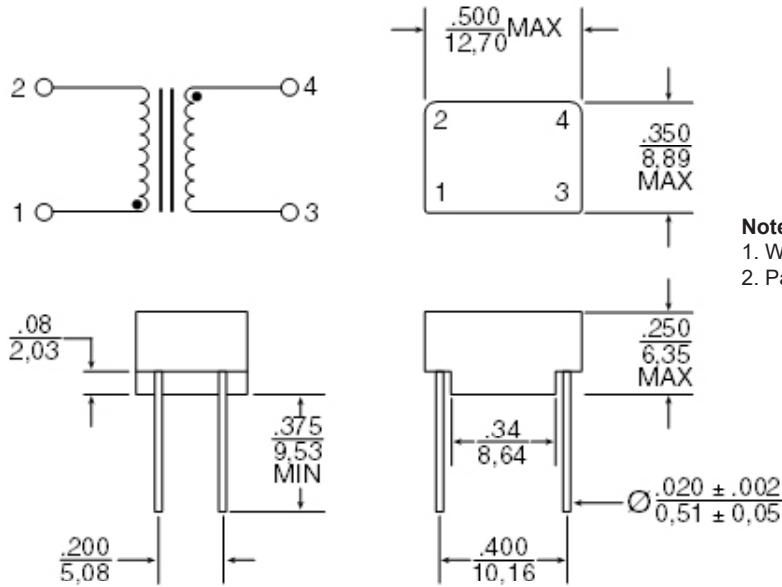
MIL-STD-1553 Transformers

Single Ratio THT QPL Pulse Transformers.

Ruggedized

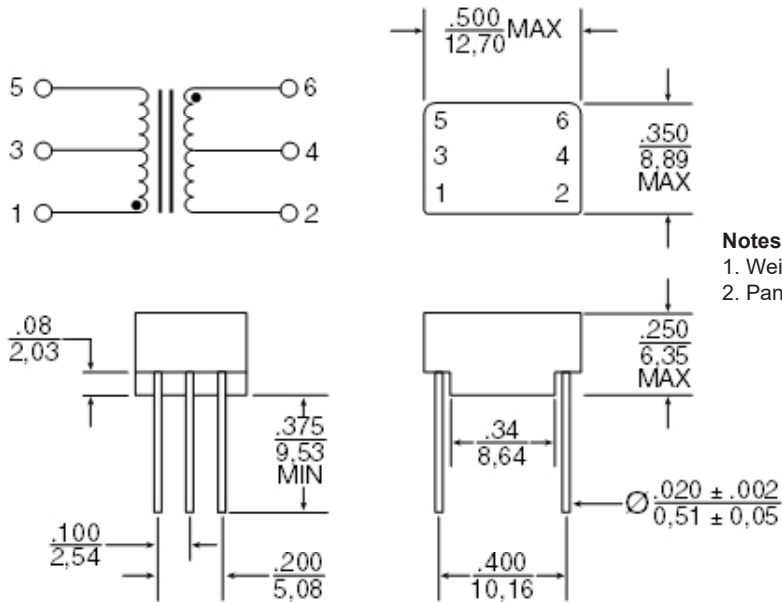


Schematics Package C Mechanical



- Notes:**
 1. Weight..... 4.08gm
 2. Pan/Tube Size= 1

Schematics Package D Mechanical



- Notes:**
 1. Weight..... 0.02gm
 2. Pan/Tube Size= 1

- Notes:**
 1. All dimensions are in inches.
 2. Tolerances: .xx = +.010, .xxx = +.008
 3. All specifications and dimensions are subject to change without notice.

MIL-PRF-21038/27 Inspection, Sampling, Testing

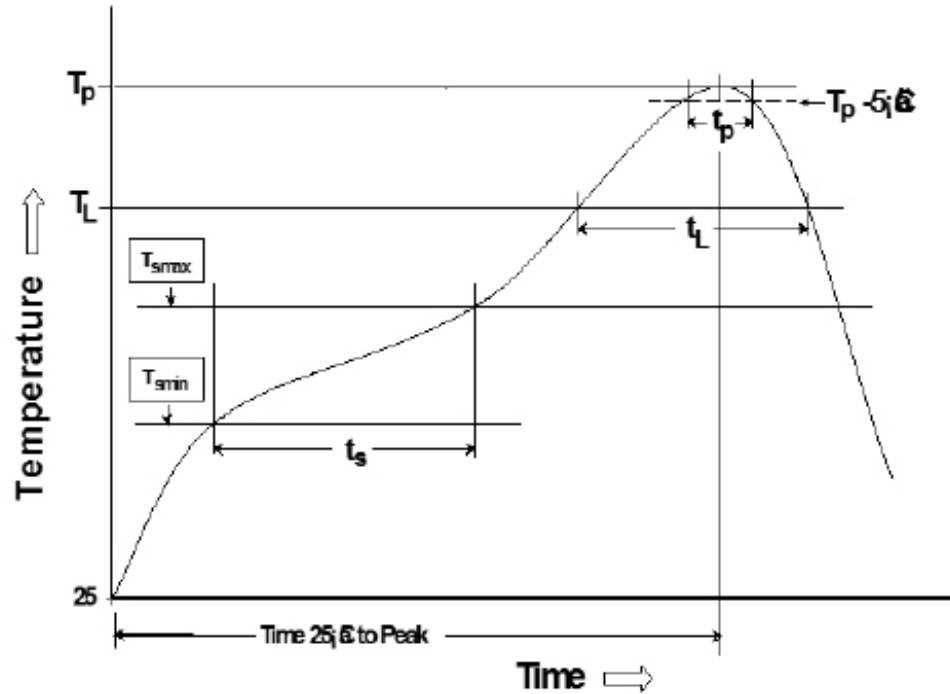
Table 1 — Group A Inspection					
Level "C"***		Level "M"		Level "T"	
Tests	Sampling Plan	Tests	Sampling Plan	Tests	Sampling Plan
N/A	N/A	Electrical Characteristics per MIL-PRF-21038/27	Sample per Table 3	Thermal Shock	100%
N/A	N/A	Visual and Mechanical Inspection	Sample per Table 3	Winding Continuity	100%
N/A	N/A	N/A	N/A	Electrical Characteristics per MIL-PRF-21038/27	100%
N/A	N/A	N/A	N/A	Impedance	Sample per Table 3
N/A	N/A	N/A	N/A	Visual and Mechanical Inspection	Sample per Table 3

Table 2 — Group B Inspection					
Level "C"***		Level "M"		Level "T"	
Tests	Sampling Plan	Tests	Sampling Plan	Tests	Sampling Plan
N/A	N/A	Dielectric Withstanding Voltage	Sample per Table 3	Dielectric Withstanding Voltage	Sample per Table 3
N/A	N/A	Insulation Resistance	Sample per Table 3	Insulation Resistance	Sample per Table 3

Table 3 — Sampling Plans for Group A and Group B Inspections		
Lot Size	Group A, Group II Inspections	Group B
1 to 5	All	All
6 to 13	All	5
14 to 50	13	5
51 to 90	13	7
91 to 150	13	11
151 to 280	20	13
281 to 500	29	16
501 to 1200	34	19
1,201 to 3,200	42	23
3,201 to 10,000	50	29

***NOTE: Parts ordered to Level C are certified to comply with MIL-PRF-21038 Level C, however testing is performed per manufacturer's internal requirements and sampling rates.

Transceiver Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



$T_{S\text{MIN}}$ (°C)	$T_{S\text{MAX}}$ (°C)	T_L (°C)	T_P (°C MAX)	t_s (s)	t_L (s)	t_p (s MAX)	Ramp-up rate (T_L to T_P)	Ramp-down rate (T_P to T_L)	Time 25°C to peak temperature (s MAX)
100	150	183	225	60-120	60-150	20	3°C/s MAX	6°C/s MAX	360

Notes:

1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

For More Information

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